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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,880	11/30/2000	Chyi-Cheng Chen	20223 US (C38435/120240)	1470
83522	7590	06/22/2011	EXAMINER	
Bryan Cave LLP 1290 Avenue of the Americas New York, NY 10104			CHANNAVAJALA, LAKSHMI SARADA	
			ART UNIT	PAPER NUMBER
			1611	
			MAIL DATE	DELIVERY MODE
			06/22/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/726,880	Applicant(s) CHEN ET AL.
	Examiner LAKSHMI CHANNAVAJJALA	Art Unit 1611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|---|---|

DETAILED ACTION

Receipt of RCE, response and amendment all dated 5/2/11 is acknowledged.

Claims 1-2, 15-16, 18-27, 32 and 37 are canceled.

Claims 3-14, 17, 28-31 and 33-37 are pending in the instant application.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/2/11 has been entered.

Upon further consideration and search, the following rejection of record has been withdrawn:

Claims 1, 3-14, 17 and 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over either US 5,968,251 to Auweter (submitted on PTO 1449 of 12-29-08) in view of US 3998753 to Antoshkiw et al or Auweter and EP 937412 ('412) in view of US 3998753 to Antoshkiw et al.

Claim 15 and 36-37 is rejected under 35 U.S.C. 103(a) as being unpatentable US 5,968,251 to Auweter (submitted on PTO 1449 of 12-29-08) in view of US 3998753 to Antoshkiw et al OR Auweter and EP 937412 ('412) in view of US 3998753 to Antoshkiw et al as applied to claims 1, 3-14, 17 and 28-35 above, and further in view of US 3,886,294 to Emodi et al (Emodi, submitted on PTO 1449 of 12-29-08).

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 3-14, 17, 28-31 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over either US 5,968,251 to Auweter (submitted on PTO 1449 of 12-29-08) in view of US 5952395 to Lorant et al or Auweter and EP 937412 ('412) in view of in view of US 5952395 to Lorant et al.

4. Auweter teaches cold water dispersible powders comprising fat soluble vitamins such as carotenoids prepared by the method described in abstract and col. 2, L 27-46. For the protective colloids, Auweter teaches the claimed proteins such as fish gelatin, vegetable proteins, and also gum such as gum arabic (col. 4, L 40-53). Auweter teaches a 0.5-20% carotenoids and 10-50% by weight of a protective colloid (col. 4, L 53-59). These amounts overlap with the amounts of claims 36 and 37. For the vitamins of claims 10-11, Auweter teaches carotenoids esters and not the claimed vitamins. Auweter teaches the carotenoids powders for food compositions but not tablet preparations (instant claim 17). However, preparing an appropriate form of the composition such as powder or solid tablet or liquid depending on the food preparation would have been within the scope of a skilled artisan. Auweter does not exemplify any compositions with the claimed gums or proteins. Auweter teaches particles of 200 nm size (col. 3, L 51-56) but not the claimed 80 -120 nm. EP '412 teaches finely divided pulverous carotenoids preparations formed by suspending the active ingredient in an organic solvent, feeding the suspension to a heat exchanger, rapidly mixing with a swellable colloid. EP teaches the particle size such as 213 nm, 225 nm or 400 nm. Among the colloids, EP teaches gelatin, starch, gums, pectin etc. (col. 3, L 1-7). EP does not readily envisage the claimed particle size of 80-120 nm. Lorant teaches gelled ultrafine oil-in-water emulsions having a particle size of 50 nm to 1000 nm (abstract). Lorant teaches ultrafine particle oil-in-water emulsion pose stability problems, become extremely fluid, require specific oils to avoid separation and also bluish in appearance. Therefore in order to over the problems, Lorant suggests adding a gelling polymer to the aqueous phase and further suggests incorporating cosmetically active agents (see entire col. 2). Lorant teaches nanoparticle sizes in the range of 30-200 nm (col. 4, L 34-43). Even though Lorant is directed to an oil-in-water emulsion and not the claimed dry powder of dispersed vitamin in a polymer matrix, the teachings of Lorant are analogous to that of EP because Lorant is also directed preparing fine particles of oily material emulsified in a continuous medium containing a gelling agent (which can be equated to the claimed polymer) and hence it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to prepare the powders of Auweter in nanoparticle size ranges suggested by EP and further a skilled artisan would have the knowledge of preparing the particles in the size ranges as low as 30-200 nm (of Lorant) that includes the claimed particle sizes. Further, it would have been obvious for a skilled artisan to modify the teachings of Auweter by incorporating colloids such as polysaccharide gums or proteins such as those

taught by Auweter or EP because both references are directed to preparing the claimed powders and further EP suggests colloids such as gelatin and gums as effective in preparing vitamin powder preparations. While instant comprising language limits the claims to the claimed components, the teachings of Lorant has been cited only to show that fine particles of claimed sizes of oily dispersions are not unknown in the art.

DETAILED ACTION

Receipt of RCE, response and amendment all dated 5/2/11 is acknowledged.

Claims 1-2, 15-16, 18-27, 32 and 37 are canceled.

Claims 3-14, 17, 28-31 and 33-37 are pending in the instant application.

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Claim 15 and 36-37 is rejected under 35 U.S.C. 103(a) as being unpatentable US 5,968,251 to Auweter (submitted on PTO 1449 of 12-29-08) in view of US 3998753 to Antoshkiw et al **OR** Auweter and EP 937412 ('412) in view of US 3998753 to Antoshkiw et al as applied to claims 1, 3-14, 17 and 28-35 above, and further in view of US 3,886,294 to Emodi et al (Emodi, submitted on PTO 1449 of 12-29-08).

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 3-14, 17, 28-31 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over either US 5,968,251 to Auweter (submitted on PTO 1449 of 12-29-08) in view of US 5952395 to Lorant et al or Auweter and EP 937412 ('412) in view of in view of US 5952395 to Lorant et al.

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organic solvent, feeding the suspension to a heat exchanger, rapidly mixing with a swellable colloid.

5. EP teaches the particle size such as 213 nm, 225 nm or 400 nm. Among the colloids, EP teaches gelatin, starch, gums, pectin etc. (col. 3, L 1-7). EP does not readily envisage the claimed particle size of 80-120 nm. Lorant teaches gelled ultrafine oil-in-water emulsions having a particle size of 50 nm to 1000 nm (abstract).

6. Lorant teaches ultrafine particle oil-in-water emulsion pose stability problems, become extremely fluid, require specific oils to avoid separation and also bluish in appearance. Therefore in order to over the problems, Lorant suggests adding a gelling polymer to the aqueous phase and further suggests incorporating cosmetically active agents (see entire col. 2). Lorant teaches nanoparticle sizes in the range of 30-200 nm (col. 4, l 34-43).

7. Even though Loran is directed to an oil-in-water emulsion and not the claimed dry powder of dispersed vitamin in a polymer matrix, the teachings of Lorant are analogous to that of EP because Lorant is also directed preparing fine particles of oily material emulsified in a continuous medium containing a gelling agent (which can be equated to the claimed polymer) and hence it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to prepare the powders of Auweter in nanoparticle size ranges suggested by EP and further a skilled artisan would have the knowledge of preparing the particles in the size ranges as low as 30-200 nm (of Lorant) that includes the claimed particle sizes. Further, it would have been obvious for a skilled artisan to modify the teachings of Auweter by incorporating colloids such as

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polysaccharide gums or proteins such as those taught by Auweter or EP because both references are directed to preparing the claimed powders and further EP suggests colloids such as gelatin and gums as effective in preparing vitamin powder preparations. While instant comprising language limits the claims to the claimed components, the teachings of Lorant has been cited only to show that fine particles of claimed sizes of oily dispersions are not unknown in the art.

8. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,968,251 to Auweter (submitted on PTO 1449 of 12-29-08) in view of US 5952395 to Lorant et al and US 2,756,177 to Cannalunga or Auweter and EP 937412 ('412) in view of US 5952395 to Lorant et al and US 2,756,177 to Cannalunga.

9. Auweter teaches cold water dispersible powders comprising fat soluble vitamins such as carotenoids prepared by the method described in abstract and col. 2, L 27-46. For the protective colloids, Auweter teaches the claimed proteins such as fish gelatin, vegetable proteins, and also gum such as gum arabic (col. 4, L 40-53). Auweter teaches a 0.5-20% carotenoids and 10-50% by weight of a protective colloid (col. 4, L 53-59). These amounts overlap with the amounts of claims 36 and 37. For the vitamins of claims 10-11, Auweter teaches carotenoids esters and not the claimed vitamins. Auweter teaches the carotenoids powders for food compositions but not tablet preparations (instant claim 17). However, preparing an appropriate form of the composition such as powder or solid tablet or liquid depending on the food preparation would have been within the scope of a skilled artisan. Auweter does not exemplify any

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compositions with the claimed gums or proteins. Auweter teaches particles of 200 nm size (col. 3, L 51-56) but not the claimed 80 -120 nm. EP '412 teaches finely divided pulverous carotenoids preparations formed by suspending the active ingredient in an organic solvent, feeding the suspension to a heat exchanger, rapidly mixing with a swellable colloid.

10. EP teaches the particle size such as 213 nm, 225 nm or 400 nm. Among the colloids, EP teaches gelatin, starch, gums, pectin etc. (col. 3, L 1-7). EP does not readily envisage the claimed particle size of 80-120 nm. Lorant teaches gelled ultrafine oil-in-water emulsions having a particle size of 50 nm to 1000 nm (abstract).

11. Lorant teaches ultrafine particle oil-in-water emulsion pose stability problems, become extremely fluid, require specific oils to avoid separation and also bluish in appearance. Therefore in order to over the problems, Lorant suggests adding a gelling polymer to the aqueous phase and further suggests incorporating cosmetically active agents (see entire col. 2). Lorant teaches nanoparticle sizes in the range of 30-200 nm (col. 4, L 34-43). Even though Loran is directed to an oil-in-water emulsion and not the claimed dry powder of dispersed vitamin in a polymer matrix, the teachings of Lorant are analogous to that of EP because Lorant is also directed preparing fine particles of oily material emulsified in a continuous medium containing a gelling agent (which can be equated to the claimed polymer) and hence it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to prepare the powders of Auweter in nanoparticle size ranges suggested by EP and further a skilled artisan would have the knowledge of preparing the particles in the size ranges as low as 30-200 nm

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(of Lorant) that includes the claimed particle sizes. Further, it would have been obvious for a skilled artisan to modify the teachings of Auweter by incorporating colloids such as polysaccharide gums or proteins such as those taught by Auweter or EP because both references are directed to preparing the claimed powders and further EP suggests colloids such as gelatin and gums as effective in preparing vitamin powder preparations. While instant comprising language limits the claims to the claimed components, the teachings of Lorant has been cited only to show that fine particles of claimed sizes of oily dispersions are not unknown in the art.

12. Auweter, EP and Lorant discussed above, fails to teach the claimed moisture content.

13. Cannalunga teaches vitamin powder preparations comprising emulsifying fat soluble vitamins with water, gelatin and/gum acacia and a sugar or a sugar alcohol, wherein the compositions are dry and free-flowing (col. 1, l 15-20 & col. 2, l 31-43). Cannalunga states that the several factors affect the droplets of vitamin-containing emulsion and that the droplets of vitamin need to be separated from each other for a long time and in order to so, Cannalunga teaches maintaining the moisture content of the composition to permanently establish the formation of particles by loss of water thus preventing agglomeration or coalescence (col. 2, l 57-72). The reference teaches maintaining moisture content to less than 8% (col. 3, l 51-57 & col. 5, example (3% moisture content)).

14. Hence it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to prepare the powders of Auweter in nanoparticle size

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ranges suggested by EP, in the size ranges as low as 30-200 nm (of Lorant) and further maintain the moisture content of the composition to less than 8% or even at 3% because Cannalonga suggests that the low moisture content prevents agglomeration of the particles dispersed. Hence, a skilled artisan would have expected a free-flowing powder with the teachings of Cannalonga.

Response to Arguments

15. Applicant's arguments filed on 5/2/11 have been fully considered but they are not persuasive. The arguments regarding the previously made rejections have been withdrawn. However, while instant claims have been amended to recite "consisting of" language thus excluding the previously cited Antoshkiw teachings, instant newly made rejections cite references that teach the claimed components and also do not require any additional components that what has been claimed. The modifications suggested by Lorant reference and Cannalonga reference only suggests physical changes to the powder compositions i.e., particle sizes and moisture content.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAKSHMI CHANNAVAJJALA whose telephone number is (571)272-0591. The examiner can normally be reached on 9.00 AM -5.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila G. Landau can be reached on 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lakshmi S Channavajjala/
Primary Examiner, Art Unit 1611